

PAGE: 1

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/341,505

DATE: 12/17/1999
TIME: 16:18:42

Input Set: I341505.RAW

This Raw Listing contains the General Information
Section and up to first 5 pages.

ENTERED

```

1  <110> APPLICANT: Jackson, Stephen P
2      Critchlow, Susan E
3  <120> TITLE OF INVENTION: Assays, agents, therapy and diagnosis relating to
4      modulation of cellular DNA repair activity
5  <130> FILE REFERENCE: MEWE-005
6  <140> CURRENT APPLICATION NUMBER: US/09/341,505
7  <141> CURRENT FILING DATE: 1999-07-12
8  <150> EARLIER APPLICATION NUMBER: PCT/GB98/00095
9  <151> EARLIER FILING DATE: 1998-01-13
10 <150> EARLIER APPLICATION NUMBER: GB 9700574.8
11 <151> EARLIER FILING DATE: 1997-01-13
12 <150> EARLIER APPLICATION NUMBER: GB 9713131.2
13 <151> EARLIER FILING DATE: 1997-06-20
14 <160> NUMBER OF SEQ ID NOS: 18
15 <170> SOFTWARE: PatentIn Ver. 2.1
16 <210> SEQ ID NO 1
17 <211> LENGTH: 944
18 <212> TYPE: PRT
19 <213> ORGANISM: Saccharomyces cerevisiae
20 <400> SEQUENCE: 1
21      Met Ile Ser Ala Leu Asp Ser Ile Pro Glu Pro Gln Asn Phe Ala Pro
22          1             5             10             15
23      Ser Pro Asp Phe Lys Trp Leu Cys Glu Glu Leu Phe Val Lys Ile His
24          20             25             30
25      Glu Val Gln Ile Asn Gly Thr Ala Gly Thr Gly Lys Ser Arg Ser Phe
26          35             40             45
27      Lys Tyr Tyr Glu Ile Ile Ser Asn Phe Val Glu Met Trp Arg Lys Thr
28          50             55             60
29      Val Gly Asn Asn Ile Tyr Pro Ala Leu Val Leu Ala Leu Pro Tyr Arg
30          65             70             75             80
31      Asp Arg Arg Ile Tyr Asn Ile Lys Asp Tyr Val Leu Ile Arg Thr Ile
32          85             90             95
33      Cys Ser Tyr Leu Lys Leu Pro Lys Asn Ser Ala Thr Glu Gln Arg Leu
34          100            105            110
35      Lys Asp Trp Lys Lys Gln Arg Val Gly Lys Gly Gly Asn Leu Ser Ser Leu
36          115            120            125
37      Leu Val Glu Glu Ile Ala Lys Arg Arg Ala Glu Pro Ser Ser Lys Ala
38          130            135            140
39      Ile Thr Ile Asp Asn Val Asn His Tyr Leu Asp Ser Leu Ser Gly Asp
40          145            150            155            160
41      Arg Phe Ala Ser Gly Arg Gly Phe Lys Ser Leu Val Lys Ser Lys Pro
42          165            170            175
43      Phe Leu His Cys Val Glu Asn Met Ser Phe Val Glu Leu Lys Tyr Phe
44          180            185            190

```

PAGE: 2

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/341,505

DATE: 12/17/1999
TIME: 16:18:42

Input Set: I341505.RAW

```

45      Phe Asp Ile Val Leu Lys Asn Arg Val Ile Gly Gly Gln Glu His Lys
46              195                      200                      205
47      Leu Leu Asn Cys Trp His Pro Asp Ala Gln Asp Tyr Leu Ser Val Ile
48              210                      215                      220
49      Ser Asp Leu Lys Val Val Thr Ser Lys Leu Tyr Asp Pro Lys Val Arg
50      225                      230                      235                      240
51      Leu Lys Asp Asp Asp Leu Ser Ile Lys Val Gly Phe Ala Phe Ala Pro
52              245                      250                      255
53      Gln Leu Ala Lys Lys Val Asn Leu Ser Tyr Glu Lys Ile Cys Arg Thr
54              260                      265                      270
55      Leu His Asp Asp Phe Leu Val Glu Glu Lys Met Asp Gly Glu Arg Ile
56              275                      280                      285
57      Gln Val His Tyr Met Asn Tyr Gly Glu Ser Ile Lys Phe Phe Ser Arg
58              290                      295                      300
59      Arg Gly Ile Asp Tyr Thr Tyr Leu Tyr Gly Ala Ser Leu Ser Ser Gly
60      305                      310                      315                      320
61      Thr Ile Ser Gln His Leu Arg Phe Thr Asp Ser Val Lys Glu Cys Val
62              325                      330                      335
63      Leu Asp Gly Glu Met Val Thr Phe Asp Ala Lys Arg Arg Val Ile Leu
64              340                      345                      350
65      Pro Phe Gly Leu Val Lys Gly Ser Ala Lys Glu Ala Leu Ser Phe Asn
66              355                      360                      365
67      Ser Ile Asn Asn Val Asp Phe His Pro Leu Tyr Met Val Phe Asp Leu
68              370                      375                      380
69      Leu Tyr Leu Asn Gly Thr Ser Leu Thr Pro Leu Pro Leu His Gln Arg
70      385                      390                      395                      400
71      Lys Gln Tyr Leu Asn Ser Ile Leu Ser Pro Leu Lys Asn Ile Val Glu
72              405                      410                      415
73      Ile Val Arg Ser Ser Arg Cys Tyr Gly Val Glu Ser Ile Lys Lys Ser
74              420                      425                      430
75      Leu Glu Val Ala Ile Ser Leu Gly Ser Glu Gly Val Val Leu Lys Tyr
76              435                      440                      445
77      Tyr Asn Ser Ser Tyr Asn Val Ala Ser Arg Asn Asn Asn Trp Ile Lys
78              450                      455                      460
79      Val Lys Pro Glu Tyr Leu Glu Glu Phe Gly Glu Asn Leu Asp Leu Ile
80      465                      470                      475                      480
81      Val Ile Gly Arg Asp Ser Gly Lys Lys Asp Ser Phe Met Leu Gly Leu
82              485                      490                      495
83      Leu Val Leu Asp Glu Glu Glu Tyr Lys Lys His Gln Gly Asp Ser Ser
84              500                      505                      510
85      Glu Ile Val Asp His Ser Ser Gln Glu Lys His Ile Gln Asn Ser Arg
86              515                      520                      525
87      Arg Arg Val Lys Lys Ile Leu Ser Phe Cys Ser Ile Ala Asn Gly Ile
88              530                      535                      540
89      Ser Gln Glu Glu Phe Lys Glu Ile Asp Arg Lys Thr Arg Gly His Trp
90      545                      550                      555                      560
91      Lys Arg Thr Ser Glu Val Ala Pro Pro Ala Ser Ile Leu Glu Phe Gly
92              565                      570                      575
93      Ser Lys Ile Pro Ala Glu Trp Ile Asp Pro Ser Glu Ser Ile Val Leu
94              580                      585                      590

```

PAGE: 3

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/341,505

DATE: 12/17/1999
TIME: 16:18:42

Input Set: I341505.RAW

```

95      Glu Ile Lys Ser Arg Ser Leu Asp Asn Thr Glu Thr Asn Met Gln Lys
96              595                      600                      605
97      Tyr Ala Thr Asn Cys Thr Leu Tyr Gly Gly Tyr Cys Lys Arg Ile Arg
98              610                      615                      620
99      Tyr Asp Lys Glu Trp Thr Asp Cys Tyr Thr Leu Asn Asp Leu Tyr Glu
100     625                      630                      635                      640
101     Ser Arg Thr Val Lys Ser Asn Pro Ser Tyr Gln Ala Glu Arg Ser Gln
102              645                      650                      655
103     Leu Gly Leu Ile Arg Lys Lys Arg Lys Arg Val Leu Ile Ser Asp Ser
104              660                      665                      670
105     Phe His Gln Asn Arg Lys Gln Leu Pro Ile Ser Asn Ile Phe Ala Gly
106              675                      680                      685
107     Leu Leu Phe Tyr Val Leu Ser Asp Tyr Val Thr Glu Asp Thr Gly Ile
108              690                      695                      700
109     Arg Ile Thr Arg Ala Glu Leu Glu Lys Thr Ile Val Glu His Gly Gly
110     705                      710                      715                      720
111     Lys Leu Ile Tyr Asn Val Ile Leu Lys Arg His Ser Ile Gly Asp Val
112              725                      730                      735
113     Arg Leu Ile Ser Cys Lys Thr Thr Thr Glu Cys Lys Ala Leu Ile Asp
114              740                      745                      750
115     Arg Gly Tyr Asp Ile Leu His Pro Asn Trp Val Leu Asp Cys Ile Ala
116              755                      760                      765
117     Tyr Lys Arg Leu Ile Leu Ile Glu Pro Asn Tyr Cys Phe Asn Val Ser
118              770                      775                      780
119     Gln Lys Met Arg Ala Val Ala Glu Lys Arg Val Asp Cys Leu Gly Asp
120     785                      790                      795                      800
121     Ser Phe Glu Asn Asp Ile Ser Glu Thr Lys Leu Ser Ser Leu Tyr Lys
122              805                      810                      815
123     Ser Gln Leu Ser Leu Pro Pro Met Gly Glu Leu Glu Ile Asp Ser Glu
124              820                      825                      830
125     Val Arg Arg Phe Pro Leu Phe Leu Phe Ser Asn Arg Ile Ala Tyr Val
126              835                      840                      845
127     Pro Arg Arg Lys Ile Ser Thr Glu Asp Asp Ile Ile Glu Met Lys Ile
128              850                      855                      860
129     Lys Leu Phe Gly Gly Lys Ile Thr Asp Gln Gln Ser Leu Cys Asn Leu
130     865                      870                      875                      880
131     Ile Ile Ile Pro Tyr Thr Asp Pro Ile Leu Arg Lys Asp Cys Met Asn
132              885                      890                      895
133     Glu Val His Glu Lys Ile Lys Glu Gln Ile Lys Ala Ser Asp Thr Ile
134              900                      905                      910
135     Pro Lys Ile Ala Arg Val Val Ala Pro Glu Trp Val Asp His Ser Ile
136              915                      920                      925
137     Asn Glu Asn Cys Gln Val Pro Glu Glu Asp Phe Pro Val Val Asn Tyr
138     930                      935                      940
139     <210> SEQ ID NO 2
140     <211> LENGTH: 844
141     <212> TYPE: PRT
142     <213> ORGANISM: Homo sapiens
143     <400> SEQUENCE: 2
144     Met Arg Leu Ile Leu Pro Gln Leu Glu Arg Glu Arg Met Ala Tyr Gly

```

PAGE: 4

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/341,505

DATE: 12/17/1999
TIME: 16:18:42

Input Set: I341505.RAW

145	1	5	10	15
146	Ile Lys Glu Thr Met Leu Ala Lys Leu Tyr Ile Glu Leu Leu Asn Leu			
147		20	25	30
148	Pro Arg Asp Gly Lys Asp Ala Leu Lys Leu Leu Asn Tyr Arg Thr Pro			
149		35	40	45
150	Thr Gly Thr His Gly Asp Ala Gly Asp Phe Ala Met Ile Ala Tyr Phe			
151		50	55	60
152	Val Leu Lys Pro Arg Cys Leu Gln Lys Gly Ser Leu Thr Ile Gln Gln			
153		65	70	75
154	Val Asn Asp Leu Leu Asp Ser Ile Ala Ser Asn Asn Ser Ala Lys Arg			
155		85	90	95
156	Lys Asp Leu Ile Lys Lys Ser Leu Leu Gln Leu Ile Thr Gln Ser Ser			
157		100	105	110
158	Ala Leu Glu Gln Lys Trp Leu Ile Arg Met Ile Ile Lys Asp Leu Lys			
159		115	120	125
160	Leu Gly Val Ser Gln Gln Thr Ile Phe Ser Val Phe His Asn Asp Ala			
161		130	135	140
162	Ala Glu Leu His Asn Val Thr Thr Asp Leu Glu Lys Val Cys Arg Gln			
163		145	150	155
164	Leu His Asp Pro Ser Val Gly Leu Ser Asp Ile Ser Ile Thr Leu Phe			
165		165	170	175
166	Ser Ala Ser Lys Pro Met Leu Ala Ala Ile Ala Asp Ile Glu His Ile			
167		180	185	190
168	Glu Lys Asp Met Lys His Gln Ser Phe Tyr Ile Glu Thr Lys Leu Asp			
169		195	200	205
170	Gly Glu Arg Met Gln Met His Lys Asp Gly Asp Val Tyr Lys Tyr Phe			
171		210	215	220
172	Ser Arg Asn Gly Tyr Asn Tyr Thr Asp Gln Phe Gly Ala Ser Pro Thr			
173		225	230	235
174	Glu Gly Ser Leu Thr Pro Phe Ile His Asn Ala Phe Lys Ala Asp Ile			
175		245	250	255
176	Gln Ile Cys Ile Leu Asp Gly Glu Met Met Ala Tyr Asn Pro Asn Thr			
177		260	265	270
178	Gln Thr Phe Met Gln Lys Gly Thr Lys Phe Asp Ile Lys Arg Met Val			
179		275	280	285
180	Glu Asp Ser Asp Leu Gln Thr Cys Tyr Cys Val Phe Asp Val Leu Met			
181		290	295	300
182	Val Asn Asn Lys Lys Leu Gly His Glu Thr Leu Arg Lys Arg Tyr Glu			
183		305	310	315
184	Ile Leu Ser Ser Ile Phe Thr Pro Ile Pro Gly Arg Ile Glu Ile Val			
185		325	330	335
186	Gln Lys Thr Gln Ala His Thr Lys Asn Glu Val Ile Asp Ala Leu Asn			
187		340	345	350
188	Glu Ala Ile Asp Lys Arg Glu Glu Gly Ile Met Val Lys Gln Pro Leu			
189		355	360	365
190	Ser Ile Tyr Lys Pro Asp Lys Arg Gly Glu Gly Trp Leu Lys Ile Lys			
191		370	375	380
192	Pro Glu Tyr Val Ser Gly Leu Met Asp Glu Leu Asp Ile Leu Ile Val			
193		385	390	395
194	Gly Gly Tyr Trp Gly Lys Gly Ser Arg Gly Gly Met Met Ser His Phe			400

1632

PAGE: 5

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/341,505

DATE: 12/17/1999
TIME: 16:18:42

Input Set: I341505.RAW

195		405		410		415	
196	Leu Cys Ala Val Ala Glu Lys Pro Pro Pro Gly Glu Lys Pro Ser Val						
197		420		425		430	
198	Phe His Thr Leu Ser Arg Val Gly Ser Gly Cys Thr Met Lys Glu Leu						
199		435		440		445	
200	Tyr Asp Leu Gly Leu Lys Leu Ala Lys Tyr Trp Lys Pro Phe His Arg						
201		450		455		460	
202	Lys Ala Pro Pro Ser Ser Ile Leu Cys Gly Thr Glu Lys Pro Glu Val						
203		465		470		475	480
204	Tyr Ile Glu Pro Cys Asn Ser Val Ile Val Gln Ile Lys Ala Ala Glu						
205		485		490		495	
206	Ile Val Pro Ser Asp Met Tyr Lys Thr Gly Cys Thr Leu Arg Phe Pro						
207		500		505		510	
208	Arg Ile Glu Lys Ile Arg Asp Asp Lys Glu Trp His Glu Cys Met Thr						
209		515		520		525	
210	Leu Asp Asp Leu Glu Gln Leu Arg Gly Lys Ala Ser Gly Lys Leu Ala						
211		530		535		540	
212	Ser Lys His Leu Tyr Ile Gly Gly Asp Asp Glu Pro Gln Glu Lys Lys						
213		545		550		555	560
214	Arg Lys Ala Ala Pro Lys Met Lys Lys Val Ile Gly Ile Ile Glu His						
215		565		570		575	
216	Leu Lys Ala Pro Asn Leu Thr Asn Val Asn Lys Ile Ser Asn Ile Phe						
217		580		585		590	
218	Glu Asp Val Glu Phe Cys Val Met Ser Gly Thr Asp Ser Gln Pro Lys						
219		595		600		605	
220	Pro Asp Leu Glu Asn Arg Ile Ala Glu Phe Gly Gly Tyr Ile Val Gln						
221		610		615		620	
222	Asn Pro Gly Pro Asp Thr Tyr Cys Val Ile Ala Gly Ser Glu Asn Ile						
223		625		630		635	640
224	Arg Val Lys Asn Ile Ile Leu Ser Asn Lys His Asp Val Val Lys Pro						
225		645		650		655	
226	Ala Trp Leu Leu Glu Cys Phe Lys Thr Lys Ser Phe Val Pro Trp Gln						
227		660		665		670	
228	Pro Arg Phe Met Ile His Met Cys Pro Ser Thr Lys Glu His Phe Ala						
229		675		680		685	
230	Arg Glu Tyr Asp Cys Tyr Gly Asp Ser Tyr Phe Ile Asp Thr Asp Leu						
231		690		695		700	
232	Asn Gln Leu Lys Glu Val Phe Ser Gly Ile Lys Asn Ser Asn Glu Gln						
233		705		710		715	720
234	Thr Pro Glu Glu Met Ala Ser Leu Ile Ala Asp Leu Glu Tyr Arg Tyr						
235		725		730		735	
236	Ser Trp Asp Cys Ser Pro Leu Ser Met Phe Arg Arg His Thr Val Tyr						
237		740		745		750	
238	Leu Asp Ser Tyr Ala Val Ile Asn Asp Leu Ser Thr Lys Asn Glu Gly						
239		755		760		765	
240	Thr Arg Leu Ala Ile Lys Ala Leu Glu Leu Arg Phe His Gly Ala Lys						
241		770		775		780	
242	Val Val Ser Cys Leu Ala Glu Gly Val Ser His Val Ile Ile Gly Glu						
243		785		790		795	800
244	Asp His Ser Arg Val Ala Asp Phe Lys Ala Phe Arg Arg Thr Phe Lys						

PAGE: 6

VERIFICATION SUMMARY
PATENT APPLICATION US/09/341,505

DATE: 12/17/1999
TIME: 16:18:42

Input Set: I341505.RAW

Line ? Error/Warning

Original Text
